

RECEIVED
CENTRAL FAX CENTER
OCT 24 2006

-2-

Amendment to the Claims:

1. (Currently Amended) A device for the evacuation of a chamber to pressures in the high vacuum range, comprising:

an atmospheric pressure side vacuum pump;

a mechanical-kinetic vacuum pump with a rotor and a stator, the stator

5 having a rotationally symmetric smooth inner surface, which is free of ribs and projections and conforms to an outer geometry of the rotor, the rotor of the mechanical-kinetic vacuum pump having a structure for effecting gas conveyance from a suction side to a pressure side connected to the pressure side vacuum pump;

10 the structure for effecting the gas conveyance includes webs whose pitch and width decrease from the suction side to the pressure side, an outer diameter of the rotor and an inner diameter of the stator of the ~~suction side~~ mechanical-kinetic vacuum pump decrease from the suction side to the pressure side.

2. (Previously Presented) The device according to claim 1, wherein the rotor includes a hub, said hub being cylindrical and carrying the webs.

3. (Previously Presented) The device according to claim 1, wherein the rotor includes a hub, said hub carrying the webs and being formed conically in such a manner that its diameter increases from the suction side to the pressure side.

4. (Currently Amended) ~~The A device according to claim 1, wherein for the evacuation of a chamber to pressures in the high vacuum range, comprising:~~

a mechanical-kinetic vacuum pump with a rotor and a stator, the stator

5 having a rotationally symmetric inner surface, which conforms to an outer geometry of the rotor, the rotor of the mechanical-kinetic vacuum pump having a structure for effecting gas conveyance from a suction side to a pressure side connectable to a pressure side vacuum pump;

10 the structure for effecting the gas conveyance including webs whose pitch and width decrease from the suction side to the pressure side, an outer diameter of the rotor and an inner diameter of the stator of the mechanical-kinetic vacuum

-3-

pump decrease from the suction side to the pressure side, the outer diameter of the rotor and the inner diameter of the stator in a longitudinal section through the suction-side vacuum pump form a curve which arches inwards in such a manner that a slope of the curve decreases from the suction side to the pressure side.

5. (Currently Amended) A mechanical-kinetic vacuum pump The device according to claim 1, wherein for the evacuation of a chamber to pressures in the high vacuum range, comprising:

a rotor and a stator,

5 the stator having a rotationally symmetric inner surface, which conforms to an outer geometry of the rotor,

the rotor having a hub with webs whose pitch and width decrease from the suction side to the pressure side for effecting gas conveyance from a suction side to a pressure side, a surface defined by the rotor hub in a longitudinal section through
10 the suction-side mechanical-kinetic vacuum pump arch arching outwards in such a manner that the slope of the surface decreases from the suction side to the pressure side, an outer diameter of the rotor and an inner diameter of the stator of the suction-side vacuum pump decrease from the suction side to the pressure side.

6. (Previously Presented) The device according to claim 4, wherein the curve follows a hyperbola.

7. (Cancelled)

8. (Currently Amended) The A mechanical-kinetic vacuum pump according to claim 7, wherein for evacuating a chamber connected at a suction side to a pressure less than 10^{-3} mbar, the mechanical kinetic vacuum pump comprising:

5 a rotor including a central hub and webs extending outward from the hub in a helical pattern, an angle and width of which decreases from the suction side to a pressure side, an outer diameter of the hub increases increasing from the suction side to the pressure side;

-4-

10 a stator having a rotationally-symmetrical inner surface which matches an outer geometry of the rotor webs, the outer rotor geometry and the stator inner surface decreasing in diameter from the suction side to the rotor side.